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## OPERATING SUMMARY

TOWN OF  
**HALTON HILLS**

TD227  
G46  
W38  
1974  
MOE

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**GEORGETOWN**

WATER POLLUTION CONTROL PLANT

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## HALTON HILLS

## GEORGETOWN



Ontario

### MINISTRY OF THE ENVIRONMENT

#### **MINISTER**

Honourable William G. Newman

#### **DEPUTY MINISTER**

E. Biggs

#### **ASSISTANT DEPUTY MINISTER REGIONAL OPERATIONS**

J. Barr

#### REGIONAL OPERATIONS DIVISION

##### **DIRECTOR, CENTRAL REGION**

P. Cockburn

##### **MANAGER, UTILITY OPERATIONS**

A. Thomas

## WATER POLLUTION CONTROL PLANT

operated for

**THE TOWN OF HALTON HILLS**

by the

**MINISTRY OF THE ENVIRONMENT**

## 1974 ANNUAL OPERATING SUMMARY

prepared by  
Plant Performance Unit  
TECHNICAL SERVICES BRANCH  
T. Cross, Director

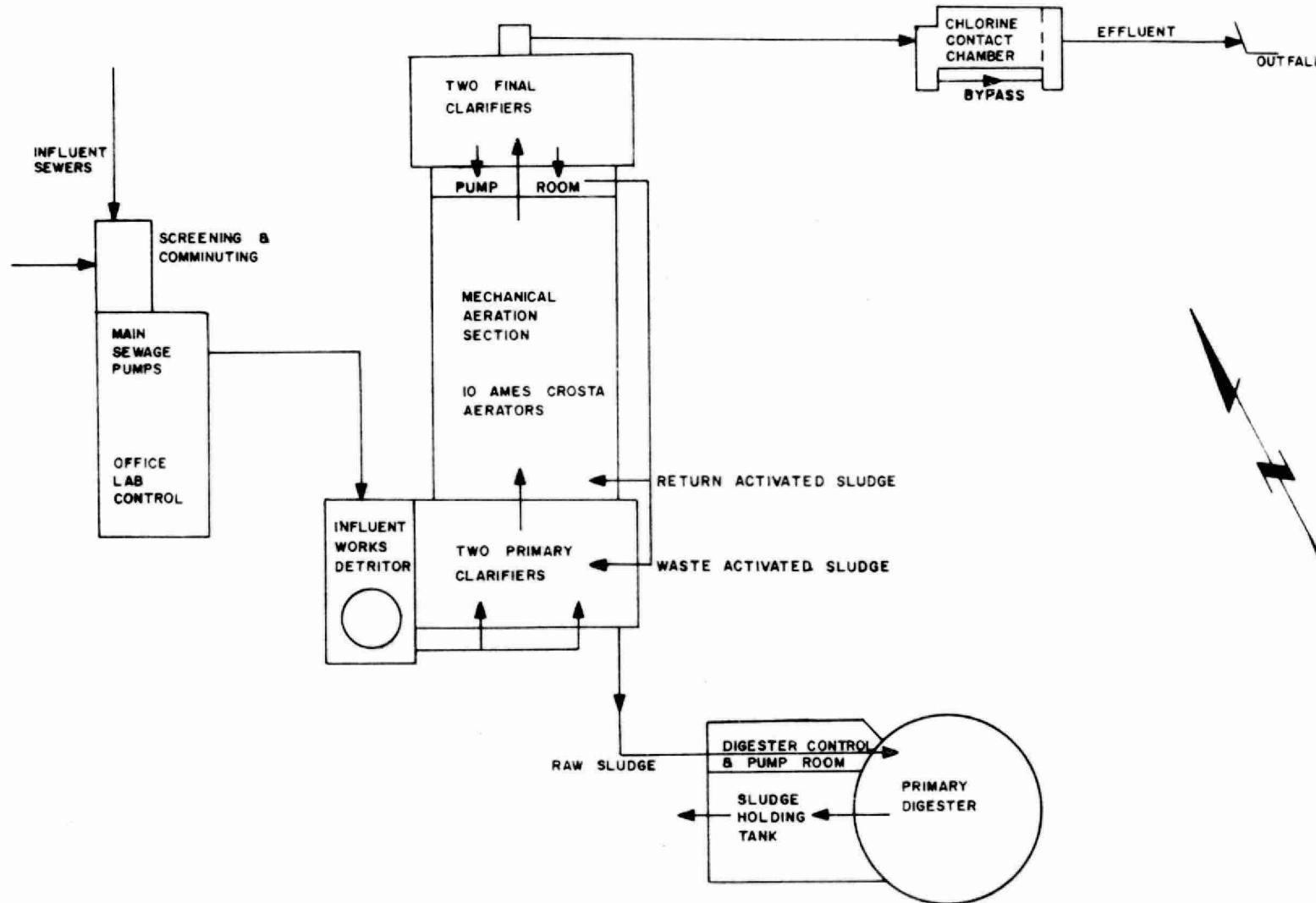
TD  
227  
G46  
W38  
1974  
MOE

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TOWN OF HALTON HILLS  
(GEORGETOWN) WPCP



## DESIGN DATA

PROJECT Town of Halton Hills  
(Georgetown) WPCP  
PROJECT NO. 2-0017-58  
TREATMENT Activated Sludge  
DESIGN FLOW 1.50 mgd  
DESIGN POPULATION 15,000  
BOD - Raw Sewage 200 mg/l  
- Removal 95%  
SS - Raw Sewage 200 mg/l  
- Removal 95%

### PRIMARY TREATMENT

#### Screening

Type: Manually cleaned bar screen  
Size: 3/4" spacing

#### Comminution

Type: C.P. Barminutor  
Size: One Model C (24")

#### Sewage Lift Pumps

Type: Chicago Pump  
Size: Two 2,900 gpm @ 60' tdh

#### Grit Removal

Type: Dorr Type WA Detritor  
Size: One 12' x 12' x 1' 3" (1,120 gal)  
Retention: 1.1 min

### Primary Sedimentation

Type: Dorr Type A  
Size: Two 35' x 35' x 10' swd  
(24,500 cu ft or 153,000 gal)  
Retention: 2.5 hours  
Loading: Surface, 612 gal/ft<sup>2</sup>/day  
Weir, 5,360 gal/ft/day

### SECONDARY TREATMENT

#### Aeration Tanks

Type: Mechanical aeration; single-pass  
Size: Two 112' x 28' x 13.25' (79,400  
cu ft or 0.495 mil gal)  
Retention: 7.9 hours

#### Aerators

- Eight Ames-Crosta

#### Secondary Sedimentation

Type: Dorr Type AZ  
Size: Two 40' x 40' x 10' swd (32,000  
cu ft or 200,000 gal)  
Retention: 3.2 hours  
Loading: Surface, 470 gal/ft<sup>2</sup>/day  
Weir, 4,700 gal/ft/day

### CHLORINATION

- One W & T 200 lb/day

### Chlorine Contact Chamber

Size: One 45' x 15' x 6' deep (27,000 gal)  
Retention: 26 min

### OUTFALL

- to Silver Creek

### SLUDGE HANDLING

#### Digestion System

Type: Two-stage

Primary --

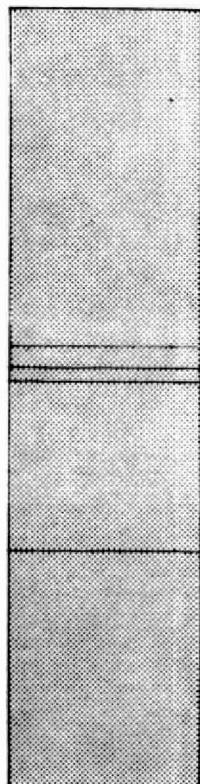
Type: Dorr draft tube mixers (3) on  
fixed steel roof  
Size: One 66' dia x 22.6' (avg) (77,800  
cu ft or 485,000 gal)  
Loading: 1.1 lb/cu ft/mo

Secondary --

Size: One 34' x 34' x 16.25' (20,700 cu  
ft or 129,000 gal)  
Total Loading: 0.87 lb/cu ft/mo

# ANNUAL COSTS

## 1974 OPERATING COSTS



- SALARIES & WAGES 42 %
- EMPLOYEE BENEFITS 3 %
- TRANSPORTATION & COMMUNICATIONS 2 %
- SERVICES 22 %
- SUPPLIES & EQUIPMENT 31 %
- AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS %
- TRANSFER PAYMENTS %
- OTHER TRANSACTIONS %

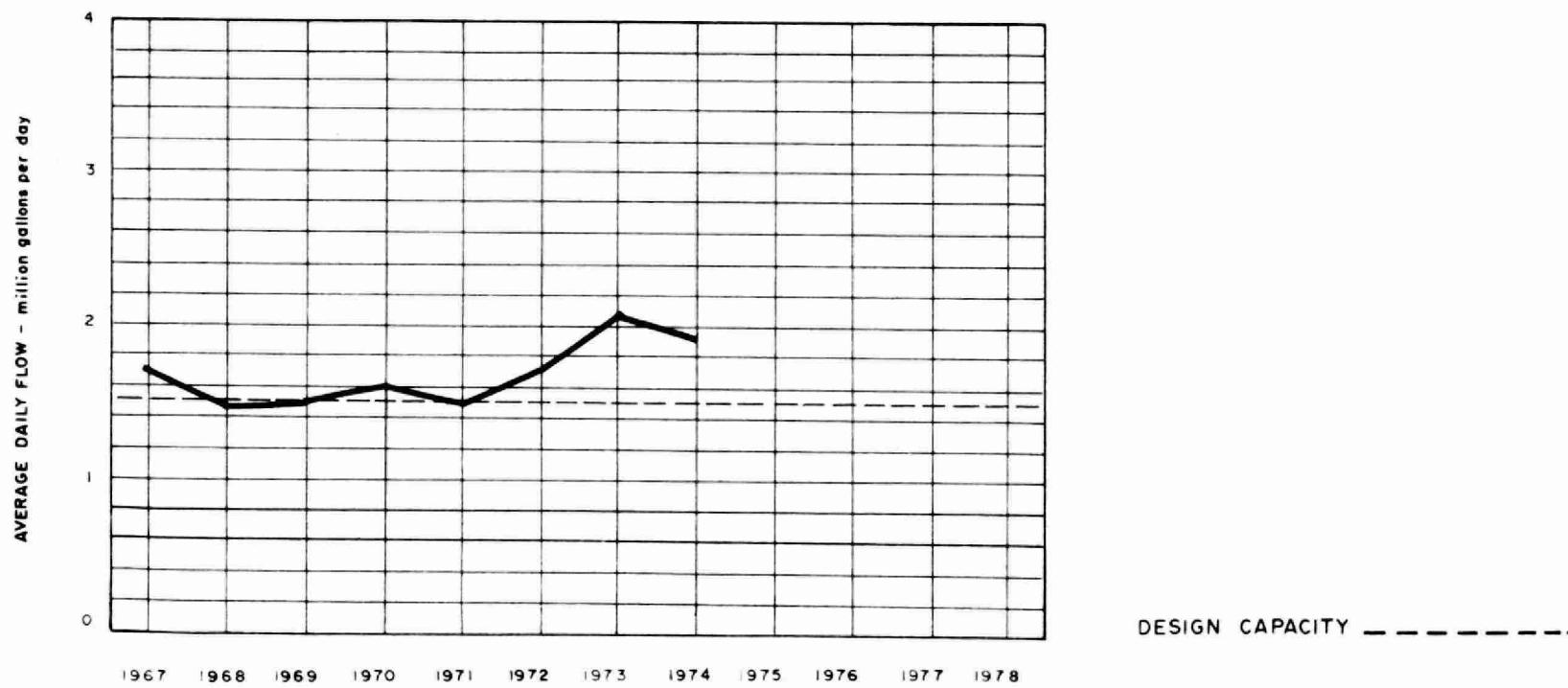
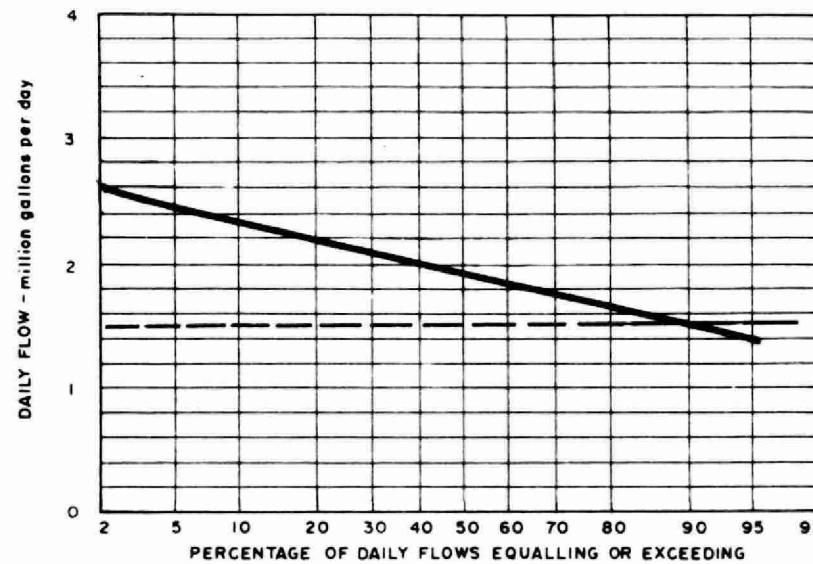
### YEARLY OPERATING COSTS

YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M.G	t/lb BOD
1969	478	48,582	102	16
1970	597	49,195	82	9
1971	552	55,812	101	12
1972	622*	65,461	105	12
1973	767*	87,987	115	10
1974	671	93,243	139	15

# OPERATING EXPENDITURES

Regular Staff	\$ 34352	\$
Casual (Unclassified) Staff	4212	
TOTAL SALARIES AND WAGES		38564
TOTAL EMPLOYEE BENEFITS		3211
TOTAL TRANSPORTATION AND COMMUNICATIONS		2123
Insurance	1890	
Sludge Haulage	12868	
Repairs and Maintenance	5280	
Other Services	148	
TOTAL SERVICES		20186
Machinery and Equipment	6667	
Chemicals	3681	
Utilities	14055	
Other Supplies and Equipment	4756	
TOTAL SUPPLIES AND EQUIPMENT		29159
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		
GRAND TOTAL	GRAND TOTAL	\$ 93243

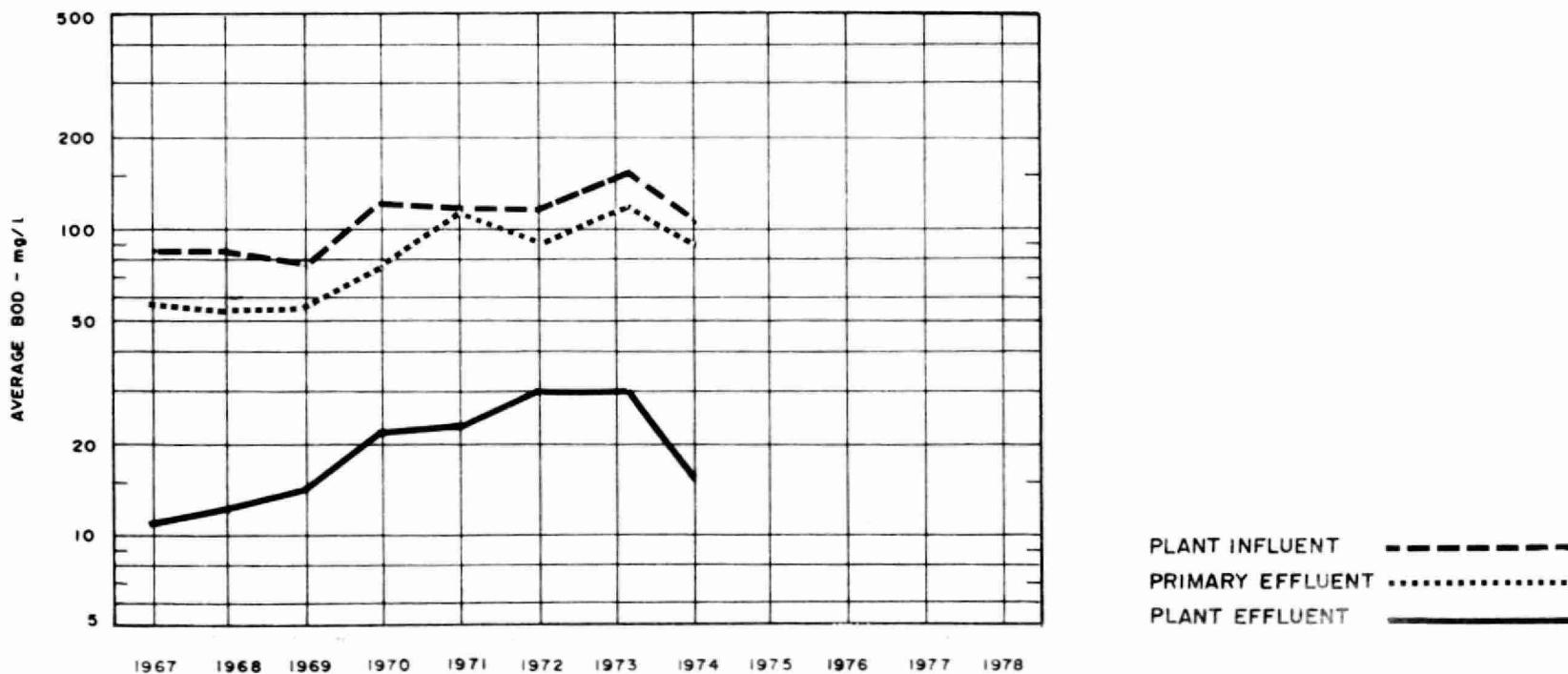
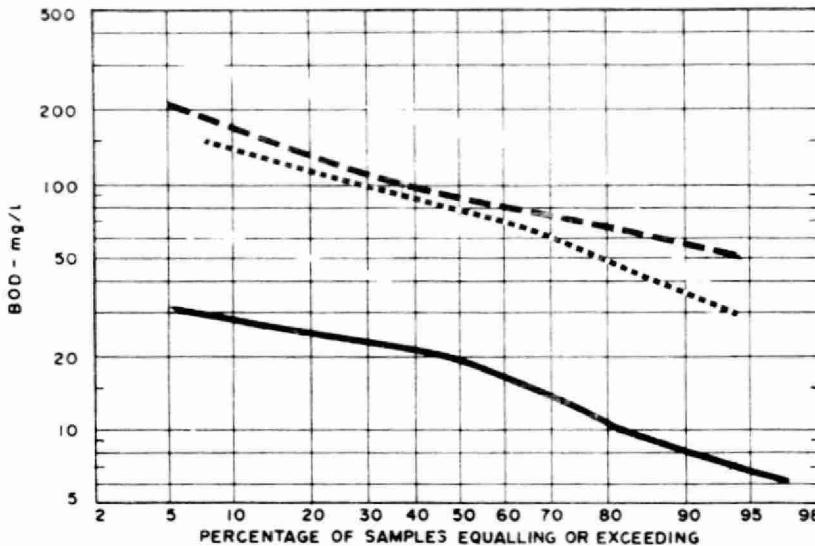
# PROCESS DATA FLOWS



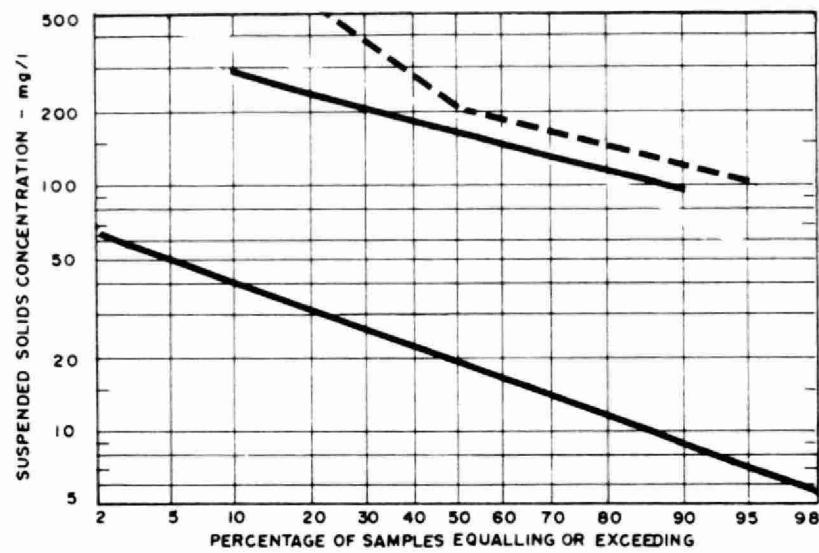
## PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW million gallons	AVERAGE DAY mil. gal	MAXIMUM DAY mgd	INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l P	EFFLUENT mg/l P
						%	10 <sup>3</sup> pounds			%	10 <sup>3</sup> pounds		
JAN	60.0	1.9	2.4	130	10	92	72	157	25	84	79	6.3	3.5
FEB	55.3	2.0	2.2	160	10	94	83	226	20	91	114	5.8	3.0
MAR	63.8	2.1	2.7	74	10	86	41	280	25	91	162	2.8	1.5
APR	66.4	2.2	2.6	83	15	82	45	183	21	89	108	5.1	3.7
MAY	69.0	2.2	2.6	90	10	89	55	104	28	73	52	-	-
JUNE	58.0	1.9	2.3	-	-	-	-	555	10	98	316	-	-
JULY	54.5	1.8	2.0	80	22	73	32	272	10	96	142	5.3	2.9
AUG	50.9	1.6	1.8	80	20	75	31	398	17	96	193	6.0	2.6
SEPT	46.2	1.5	1.8	130	34	74	44	312	14	96	138	8.0	3.5
OCT	48.6	1.6	2.0	116	20	83	47	267	20	93	120	9.0	1.2
NOV	50.1	1.7	2.9	85	20	76	33	350	24	93	163	5.7	3.9
DEC	48.1	1.6	1.9	140	22	84	57	236	30	87	99	7.0	3.3
TOTAL	670.9	-	-	-	-	-	-	-	-	-	-	-	-
AVG.	55.9	1.8	2.9	107	17	84	55	244	21	91	125	6.2	3.0
No. of Samples	-	-	-	15	15	-	-	82	45	-	-	13	12

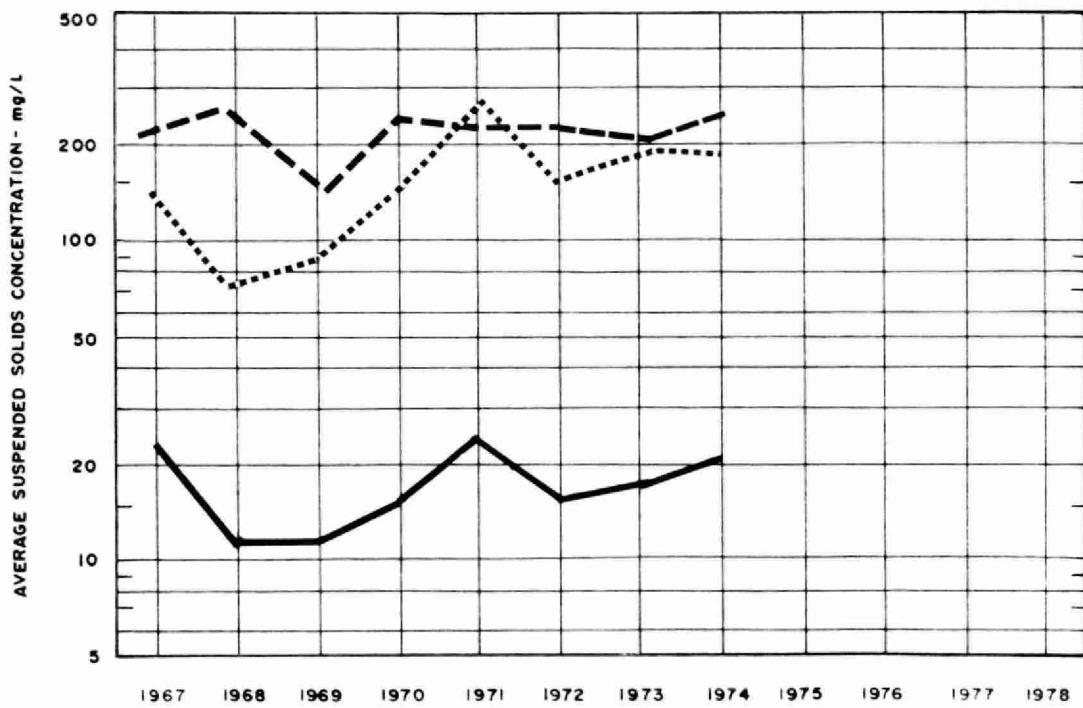
# BIOCHEMICAL OXYGEN DEMAND



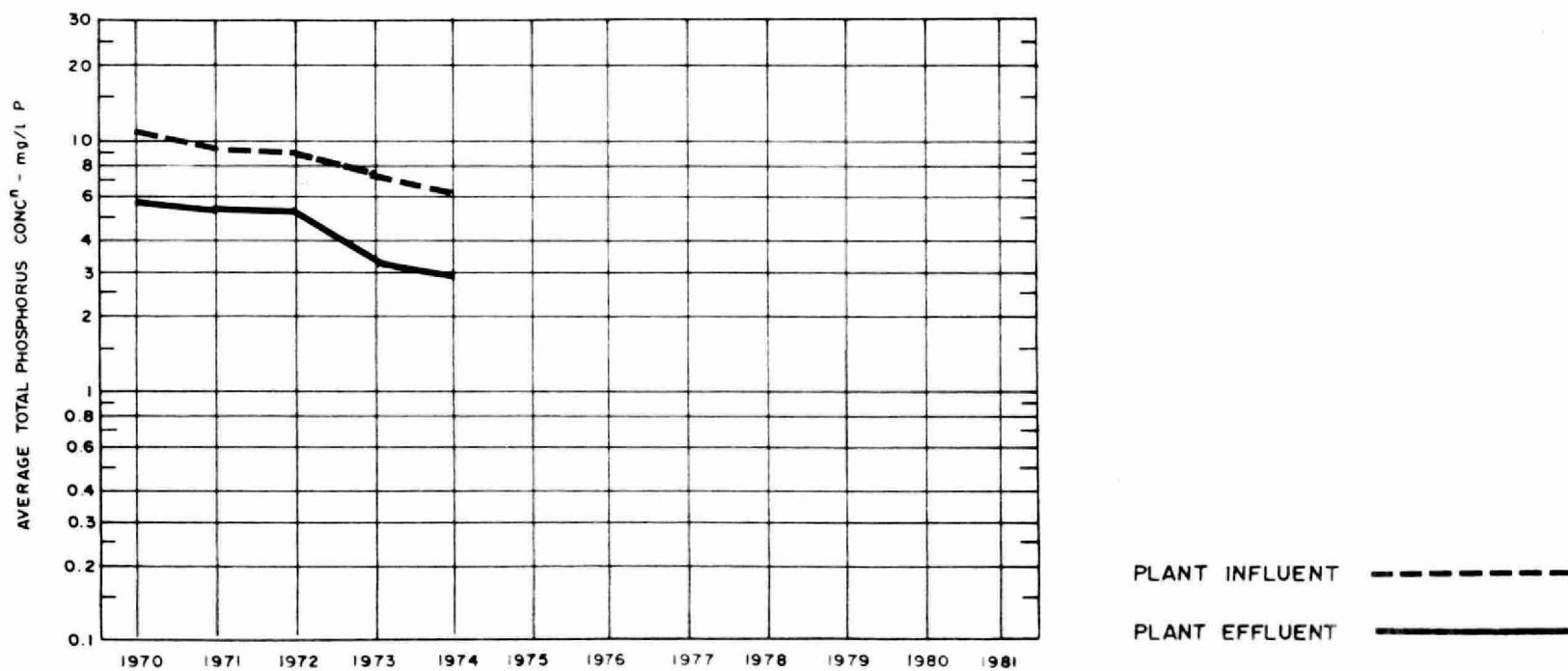
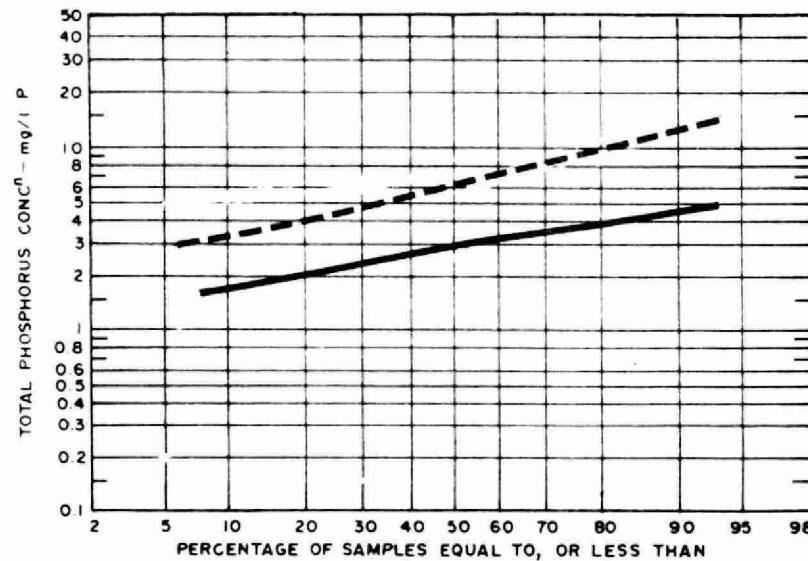
# SUSPENDED SOLIDS



PLANT INFLUENT  
PRIMARY EFFLUENT  
PLANT EFFLUENT



# PHOSPHORUS



## TREATMENT DATA

MONTH	GRIT	CHLORINATION		PRIMARY EFFLUENT		AERATION			SLUDGE DIGESTION and DISPOSAL							
		Cl <sub>2</sub> USED 10 <sup>3</sup> pounds	Avg. DOSE mg/l	BOD mg/l	SUSPENDED SOLIDS mg/l	MLSS CONC mg/l	F/M day <sup>-1</sup>	AIR 1000 ft <sup>3</sup> lb BOD	RAW SLUDGE		DIGESTED SLUDGE		SUPER- NATANT T.S. %	AMOUNT HAULED cubic yards		
									10 <sup>5</sup> gallons	TOTAL SOLIDS %	VOL. SOLIDS %	10 gallons	TOTAL SOLIDS %	VOL. SOLIDS %	%	
JAN	49	2.0	3.3	160	145	2500	.23		1.1	5.8	31		-	-	-	1351
FEB	45	1.9	3.4	115	166	3400	.13		1.1	11.5	48		-	-	-	1225
MAR	35	1.4	2.3	69	130	3000	.09		1.8	7.8	48		-	-	-	928
APR	21	1.6	2.4	93	163	2500	.16		1.0	9.1	38		-	-	-	549
MAY	38	1.7	2.4	85	170	2700	.13		3.2	9.6	40		-	-	-	979
JUNE	11	1.8	3.1	-	180	2900	-		2.1	-	-		-	-	-	1023
JULY	18	1.8	3.3	60	198	2700	.08		1.6	7.6	40		-	-	-	1095
AUG	20	1.6	3.1	65	245	3000	.07		0.9	6.9	41		-	-	-	1031
SEPT	38	1.6	3.5	110	148	2800	.11		1.4	7.0	39		-	-	-	588
OCT	34	1.7	3.4	78	394	3200	.08		1.5	6.7	41		-	-	-	543
NOV	67	1.5	3.0	80	202	2500	.10		1.0	9.1	43		-	-	-	691
DEC	46	1.5	3.2	130	152	2200	.18		1.0	7.3	39		-	-	-	633
<b>TOTAL</b>	<b>422</b>	<b>20.1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.7</b>	<b>-</b>	<b>-</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>10636</b>
<b>AVG.</b>	<b>cu. ft/1000 gal</b>	<b>1.7</b>	<b>3.0</b>	<b>95</b>	<b>191</b>	<b>2800</b>	<b>.12</b>		<b>1.5</b>	<b>8.0</b>	<b>41</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>886</b>

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